

8/11/2011

**Honeywell**

**Honeywell Burdick & Jackson®**

1953 South Harvey Street

Muskegon, MI 49442

Phone: (800) 368-0050

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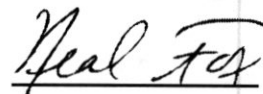
**Certificate of Analysis**

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**Product:** Methanol  
**Cat:** 230  
**Lot:** DE699  
**Date of Manufacture:** 8/11/11  
**Use Before Date:** 2/9/13

<u>Test</u>	<u>Specification</u>		<u>Result</u>	<u>Units</u>
	<u>Min.</u>	<u>Max.</u>		
Water by Karl Fischer Titration		0.05	0.021	%
UV Cutoff		205	203	nm
Refractive Index (20°C)	1.3280	1.3288	1.3286	
Residue		1	<0.5	mg/L
GC Analysis	99.9		99.99	%
Electron Capture GC		10	<10	ng/L
Fluorescence (as quinine base)		0.30	0.05	ppb
HPLC Gradient @ 220 nm		0.005	<0.005	AU
HPLC Gradient @ 254 nm		0.001	<0.001	AU
UV Absorbance @ 225 nm		0.160	0.1006	AU
UV Absorbance @ 250 nm		0.020	0.0075	AU
UV Absorbance @ 300 nm		0.005	0.0005	AU
UV Absorbance @ 400 nm		0.005	<0.0001	AU

Quality Control Approval



LIMS Sample No.: AC11983

**Methanol (230, 232, 233)**

Version 1

Revision Date 03/26/2009

Print Date 09/13/2011

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Methanol (230, 232, 233)  
MSDS Number : 000000011383  
Product Use Description : Solvent

Company : Honeywell International, Inc.  
101 Columbia Road  
Morristown, NJ 07962-1057

For more information call : 1-800-368-0050  
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701**  
: **Transportation: 1-800-424-9300 or +1-703-527-3887**  
: (24 hours/day, 7 days/week)

**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : slight alcoholic

Hazard Summary : Flammable. In use, may form flammable/explosive vapour-air mixture. May be fatal if swallowed. May be fatal if inhaled. May be harmful if absorbed through skin. Irritating to eyes, respiratory system and skin. May cause blindness. May cause irritation of the gastrointestinal tract. Can be absorbed through skin. Repeated exposure may cause skin dryness or cracking. This product may cause adverse reproductive effects. Possible risk of harm to the unborn child.

**Potential Health Effects**

Skin : Irritating to skin.  
Can be absorbed through skin.  
May be harmful if absorbed through skin.  
May cause systemic poisoning with symptoms paralleling those of inhalation.  
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

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- Eyes** : Irritating to eyes.  
Causes itching, burning, redness and tearing.  
May cause blindness.
- Ingestion** : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.  
Causes headache, drowsiness or other effects to the central nervous system.  
May cause systemic poisoning with symptoms paralleling those of inhalation.
- Inhalation** : Causes respiratory tract irritation.  
Causes headache, drowsiness or other effects to the central nervous system.  
Inhalation of high vapour concentrations can cause CNS-depression and narcosis.  
May cause blindness.
- Chronic Exposure** : Causes damage to the kidneys/liver/eyes/brain/respiratory system/central nervous system through prolonged or repeated exposure.  
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.  
This product may cause adverse reproductive effects.  
Possible risk of harm to the unborn child.
- Aggravated Medical Condition** : Liver disorders  
Eye disorders  
Skin disorders  
Neurological disorders  
Kidney disorders  
Do not use if pregnant.
- Target Organs** : Eyes  
Skin  
Respiratory system  
Central nervous system  
Gastrointestinal tract

**Carcinogenicity**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Weight %
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Methanol

67-56-1

100.00

**SECTION 4. FIRST AID MEASURES**

- Inhalation : Call a physician immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present.
- Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.
- Ingestion : Call a physician immediately. Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person.

**Notes to physician**

- Treatment : Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES**

- Flash point : 11 °C (52 °F)  
closed cup
- Ignition temperature : 464 °C (867 °F)
- Lower explosion limit : 6 %(V)
- Upper explosion limit : 36 %(V)
- Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Cool closed containers exposed to fire with water spray.
- Extinguishing media which shall not be used for safety reasons : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during fire fighting : Flammable.  
Vapours may form explosive mixtures with air.

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Vapours are heavier than air and may spread along floors.  
Vapors may travel to areas away from work site before  
igniting/flashing back to vapor source.  
In case of fire hazardous decomposition products may be  
produced such as:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)  
Formaldehyde

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions : Wear personal protective equipment.  
Immediately evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Do not swallow.  
Do not breathe vapours or spray mist.  
Avoid contact with skin, eyes and clothing.

Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Discharge into the environment must be avoided.  
Do not flush into surface water or sanitary sewer system.  
Prevent product from entering drains.  
Collect contaminated fire extinguishing water separately. This  
must not be discharged into drains.

Methods for cleaning up : Ventilate the area.  
No sparking tools should be used.  
Use explosion-proof equipment.  
Contain and collect spillage with non-combustible absorbent  
materials, e.g. sand, earth, vermiculite, diatomaceous earth  
and place in container for disposal according to local  
regulations (see section 13).

**SECTION 7. HANDLING AND STORAGE****Handling**

Handling : Wear personal protective equipment.  
Use only in well-ventilated areas.  
Keep container tightly closed.  
Do not smoke.  
Do not swallow.  
Do not breathe vapours or spray mist.  
Avoid contact with skin, eyes and clothing.

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Advice on protection against fire and explosion : Keep away from fire, sparks and heated surfaces.  
Take precautionary measures against static discharges.  
Ensure all equipment is electrically grounded before beginning transfer operations.  
Use explosion-proof equipment.  
Keep product and empty container away from heat and sources of ignition.  
No sparking tools should be used.  
No smoking.

**Storage**

Requirements for storage areas and containers : Store in area designed for storage of flammable liquids.  
Protect from physical damage.  
Keep containers tightly closed in a dry, cool and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Keep away from heat and sources of ignition.  
Keep away from direct sunlight.  
Store away from incompatible substances.  
Container hazardous when empty.  
Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.

Engineering measures : Use with local exhaust ventilation.  
Prevent vapor buildup by providing adequate ventilation during and after use.

Eye protection : Do not wear contact lenses.  
Wear as appropriate:  
Safety glasses with side-shields  
If splashes are likely to occur, wear:  
Goggles or face shield, giving complete protection to eyes

Hand protection : Solvent-resistant gloves  
Gloves must be inspected prior to use.  
Replace when worn.

Skin and body protection : Wear as appropriate:  
Solvent-resistant apron



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Flame retardant antistatic protective clothing  
If splashes are likely to occur, wear:  
Protective suit

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.  
For rescue and maintenance work in storage tanks use self-contained breathing apparatus.  
Use NIOSH approved respiratory protection.

Hygiene measures : When using, do not eat, drink or smoke.  
Wash hands before breaks and immediately after handling the product.  
Keep working clothes separately.  
Do not swallow.  
Do not breathe vapours or spray mist.  
Avoid contact with skin, eyes and clothing.  
This material has an established AIHA ERPG exposure limit.  
The current list of ERPG exposure limits can be found at  
<http://www.aiha.org/1documents/Committees/ERP-erplevels.pdf>.

**Exposure Guidelines**

Methanol	67-56-1	ACGIH	TWA	200 ppm
		ACGIH	STEL	250 ppm

Skin designation:  
Can be absorbed through the skin.

NIOSH	REL	200 ppm	260 mg/m3
NIOSH	STEL	250 ppm	325 mg/m3

Skin designation:  
Can be absorbed through the skin.

US CA OEL	TWA PEL	200 ppm	260 mg/m3
US CA OEL	Ceiling		1,000 ppm
US CA OEL	STEL	250 ppm	325 mg/m3

Skin designation:  
Can be absorbed through the skin.

OSHA Z1	PEL	200 ppm	260 mg/m3
OSHA Z1A	TWA	200 ppm	260 mg/m3

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OSHA Z1A      STEL      250 ppm      325 mg/m3

Skin designation (Final Rule Limit applies):  
Can be absorbed through the skin.**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Form	: liquid, clear
Color	: colourless
Odor	: slight alcoholic
Molecular Weight	: 34.04 g/mol
pH	: not applicable
Melting point/range	: not applicable
Boiling point/boiling range	: 64.7 °C (148.5 °F)
Vapor pressure	: 129.32 hPa at 20 °C (68 °F)
Relative vapour density	: 1.11 (Air = 1.0)
Density	: 0.792 g/cm3 at 20 °C (68 °F)
Water solubility	: completely soluble

**SECTION 10. STABILITY AND REACTIVITY**

Conditions to avoid	: Heat, flames and sparks. Keep away from direct sunlight.
Materials to avoid	: Strong oxidizing agents Aluminium Magnesium May attack many plastics, rubbers and coatings.
Hazardous decomposition products	: In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO2)



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Formaldehyde

Hazardous reactions : Hazardous polymerisation does not occur.  
Stable under recommended storage conditions.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity : LD50 rat  
Dose: 5,628 mg/kg

Acute dermal toxicity : LD50 rabbit  
Dose: 15,800 mg/kg

Acute inhalation toxicity : LC50 rat  
Dose: 64000 ppm  
Exposure time: 4 h

Skin irritation : rabbit  
irritating  
Exposure time: 24 h

Eye irritation : rabbit eye  
irritating

**SECTION 12. ECOLOGICAL INFORMATION**

Toxicity to fish : LC50  
Species: Fathead minnow  
Dose: 29,400 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates. : LC50  
Species: Daphnia  
Dose: 10,000 mg/l  
Exposure time: 24 h

Toxicity to bacteria : EC50  
Species: Photobacterium phosphoreum  
Dose: 43,000 mg/l  
Exposure time: 5 min

Toxicity to bacteria : EC50  
Species: Photobacterium phosphoreum  
Dose: 40,000 mg/l  
Exposure time: 15 min

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Toxicity to bacteria : EC50  
Species: Photobacterium phosphoreum  
Dose: 39,000 mg/l  
Exposure time: 25 min

Additional ecological information : Accumulation in aquatic organisms is unlikely.  
The product is readily degradable in the environment.  
Do not flush into surface water or sanitary sewer system.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste Information: Observe all Federal, State, and Local Environmental regulations.

**SECTION 14. TRANSPORT INFORMATION**

**DOT** UN-Number : 1230  
Proper shipping name : Methanol  
Class : 3  
Packing group : II  
Hazard Label : 3

**IATA** UN Number : 1230  
Description of the goods : Methanol  
Class : 3  
Packaging group : II  
Hazard Label : 3 (6.1)  
Packing instruction (cargo aircraft) : 307  
Packing instruction (passenger aircraft) : 305  
Packing instruction (passenger aircraft) : Y305

**IMDG** Substance No. : UN 1230  
Description of the goods : Methanol  
Class : 3  
Packaging group : II  
Hazard Label : 3 (6.1)  
EmS Number : F-E  
Marine pollutant : no

**SECTION 15. REGULATORY INFORMATION**

**Inventories**

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EU. EINECS	: On the inventory, or in compliance with the inventory
US. Toxic Substances Control Act	: On TSCA Inventory
Australia. Industrial Chemical (Notification and Assessment) Act	: On the inventory, or in compliance with the inventory
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	: All components of this product are on the Canadian DSL list.
Japan. Kashin-Hou Law List	: On the inventory, or in compliance with the inventory
Korea. Toxic Chemical Control Law (TCCL) List	: On the inventory, or in compliance with the inventory
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	: On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances	: On the inventory, or in compliance with the inventory
CH INV - Switzerland	: On the inventory, or in compliance with the inventory
NZIOC - New Zealand	: On the inventory, or in compliance with the inventory

**National regulatory information**

<b>SARA 313 Components</b>	: Methanol	67-56-1
<b>SARA 311/312 Hazards</b>	: Fire Hazard Acute Health Hazard Chronic Health Hazard	
<b>CERCLA Reportable Quantity</b>	: 5000 lbs	

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**California Prop. 65** : This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

**Massachusetts RTK** : Methanol 67-56-1

**New Jersey RTK** : Methanol 67-56-1

**Pennsylvania RTK** : Methanol 67-56-1

**WHMIS Classification** : B2  
D1B  
D2A  
D2B

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**SECTION 16. OTHER INFORMATION**

	<b>HMIS III</b>	<b>NFPA</b>
Health Hazard	: 2*	1
Flammability	: 3	3
Physical Hazard	: 0	
Instability	:	0

**Further information**

\* - Chronic health hazard